DOCUMENT RESUME

ED 305 436 CE 052 079

AUTHOR Vos, Jo
TITLE Post-Secondary Vocational Education: Follow-Up Study.
INSTITUTION Minnesota State Office of the Legislative Auditor, St. Paul. Program Evaluation Div.
PUB DATE Mar 85
NOTE 42p.; This is a follow-up study to ED 242 876.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Compliance (Legal); Educational Research; Followup Studies; *Job Placement; Postsecondary Education; *Program Improvement; State Legislation; State Programs; *Statewide Planning; *Teacher Student Ratio; *Vocational Education
IDENTIFIERS *Area Vocational Technical Schools; *Minnesota

ABSTRACT

A study examined whether the Minnesota State Board of Vocational Education has adequately implemented recommendations made in a 1983 evaluation of postsecondary vocational education programs. It focused particularly on how the board and its management have responded to problems of low job placement rates and low student-teacher ratios in some vocational programs. Findings indicated they have not yet adequately addressed the placement rate problem; related placement rates declined since the 1983 evaluation. The board had made progress in the area of student-teacher ratios by eliminating programs with low ratios; systemwide, average student-teacher ratios improved slightly. Recommendations were that the board and staff develop an adequate measure of related placement rates and refine their present student-teacher ratio policies, that the legislature remove current statutory criteria on related placement rates and student-teacher ratios because they are stricter than the standards recommended in the 1983 report, and that the legislature should not provide the area vocational-technical institute system with funds that would enable it to add more programs. It would not be wise for the board and management to fund new programs either through savings from the elimination of existing programs with poor placement rates or from staff reductions. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED305436

POST-SECONDARY VOCATIONAL EDUCATION: FOLLOW-UP STUDY

March 1985

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Program Evaluation Division
Office of the Legislative Auditor
State of Minnesota

052079

Veterans Service Building, Saint Paul, Minnesota 55155 • 612/296-4708

Program Evaluation Division

The Program Evaluation Division was established by the Legislature in 1975 as a center for management and policy research within the Office of the Legislative Auditor. The division's mission, as set forth in statute, is to determine the degree to which activities and programs entered into or funded by the state are accomplishing their goals and objectives and utilizing resources efficiently. Reports published by the division describe state programs, analyze management problems, evaluate outcomes, and recommend alternative means of reaching program goals. A list of past reports appears at the end of this document.

Topics for study are approved by the Legislative Audit Commission (LAC), a 16-member bipartisan oversight committee. The division's reports, however, are solely the responsibility of the Legislative Auditor and his staff. Findings, conclusions, and recommendations do not necessarily reflect the views of the LAC or any of its members.

The Office of the Legislative Auditor also includes a Financial Audit Division, which is responsible for auditing state financial activities, and an Investigations Unit.

PREFACE

The purpose of this study is to examine whether the State Board of Vocational Technical Education has adequately implemented recommendations made in our 1983 evaluation of post-secondary vocational education programs. In particular, this study focuses on how the board and its management have responded to problems of low job placement rates and low student-teacher ratios in some vocational programs.

We would like to thank the staff and management of the State Board of Vocational Technical Education for their cooperation and assistance during our study.

This study was directed by John Yunker. This report was researched and written by Jo Vos.

James R. Nobles
Legislative Auditor

Roger A. Brooks
Deputy Legislative Auditor

March 21, 1985

TABLE OF CONTENTS

		Page
	EXECUTIVE SUMMARY	ix
A.	INTRODUCTION	2
B.	PLACEMENT RATES	6
C.	STUDENT-TEACHER RATIOS	18
D.	BOARD REQUEST TO REPEAL STATUTORY CRITERIA	25
E.	BOARD BUDGET REQUEST	27
	STUDIES OF THE PROGRAM EVALUATION DIVISION	29

LIST OF TABLES

	Page
Table 1: Licensed Staffing Patterns	5
Table 2: Comparison of Placement Rates Using Different Measures	9
Table 3: Comparison of Different Related Placement Measures for Major Programs	10
Table 4: Related Placement Rates One Year After Graduation: Unavailable Graduates Included	16
Table 5: Related Placement Rates One Year After Graduation: Unavailable Graduates Excluded	17
Table 6: Student-Teacher Ratios by Occupational Area	19
Table 7: AVTI Enrollment	20
Table 8: Frequency Distribution of Student-Teacher Ratios for Major Programs	23

EXECUTIVE SUMMARY

In February 1983, the Legislative Auditor's Office issued a report on the post-secondary vocational education programs offered by Minnesota's 33 area vocational technical institutes (AVTIs). That report revealed significant problems with low job placement rates, inefficient student-teacher ratios, unnecessary program duplication, and high dropout rates. The report recommended that the AVTI system increase its average *systemwide* student-teacher ratio to 17:1 in non-health programs and 12:1 in health programs. The report also found that up to 28 percent of AVTI programs had closely related job placement rates of less than 51 percent. At least 10 percent of the programs had very serious placement problems by any reasonable definition of placement.

The 1983 Legislature subsequently created a new State Board of Vocational Technical Education and directed it to eliminate any program with a closely related placement rate less than 51 percent or a student-teacher ratio significantly below 17:1 (12:1 for a health program) unless there are compelling reasons to retain the program. The Legislature required the board to report back on the actions taken. The Legislature also reduced the biennial appropriation for the AVTIs by about $7.3 million below the level of funding recommended by the Governor. The Governor had recommended that the AVTIs be provided with the same level of funding plus an increase at the estimated rate of inflation. Due to the budget cuts, AVTIs had to eliminate some programs and reduce staffing in others. Between FY 1983 and FY 1985 the number of programs offered by the AVTIs fell by 3.7 percent. The number of instructional staff was reduced by 5.7 percent.

The State Board of Vocational Technical Education has requested that the 1985 Legislature increase its instructional budget by $29.4 million during the 1986-87 biennium. The requested increase would restore the budget cuts made during the 1983 legislative session, provide funding sufficient to pay for unanticipated salary increases that occurred this biennium, and fund salary increases that the board expects will occur during the coming biennium. The board is also requesting that the 1985 Legislature remove the statutory language requiring the board to take action on programs with low student-teacher ratios or low closely related placement rates.

This follow-up study examined whether the board and its management have adequately implemented major recommendations from our 1983 report. In particular, we examined whether the board has adequately dealt with the problems of low related placement rates and low student-teacher ratios.

It should be noted that the State Board of Vocational Technical Education only assumed full responsibility for the AVTI system on January 1, 1984. Since that time, it has had to resolve many organizational and administrative issues. The board has also been required to prepare a long-range system plan and joint cooperative plans between 13 AVTIs and 13 community colleges, besides addressing problems with placement rates and student-teacher ratios. As a result, it may be somewhat early to expect the board to have addressed the concerns we raised in our 1983 report.

We believe that the new board and its management have made progress, particularly in the area of student-teacher ratios:

- Since January 1984, the board has eliminated 24 programs with low student-teacher ratios and reduced staff in 20 others.

- *Systemwide* average student-teacher ratios improved slightly in FY 1984 and would have improved more in FY 1985 except that the AVTI system, like most of the other post-secondary systems, experienced a decline in student enrollment. If enrollment had not declined, the staff reductions made by the board for FY 1985 would have brought the AVTI system close to the recommended *systemwide* student-teacher ratio of 17:1 for non-health programs and 12:1 for health programs. Because of the unexpected enrollment drop, however, the average ratio for non-health programs is expected to decline in FY 1985 to 15.7:1.

Because of the limited amount of time they had to respond to problems with student-teacher ratios, the board and its management chose to review all non-health programs with a ratio of less than 14:1 and all health programs with a ratio of less than 10:1. This approach is an improvement over past practice, but needs refinement. The same minimum standard of 14:1 should not be applied to all non-health programs. Some classroom programs should be required to meet higher standards and other programs, because of their unique characteristics, should be subject to lower standards.

The board and its management have made some progress in addressing the problem of low related placement rates. Since January 1984, the board has eliminated eight programs with low placement rates. However, we believe that the board and its management have not yet adequately addressed the placement rate problem. We find that:

- Management has identified only 1 to 2 percent of programs as having related placement rates under 51 percent. In our 1983 report, we found that at least 10

percent of all programs had related placement rates under 51 percent.

- Management is using a very lenient method for computing placement rates and in part using school-reported placement data--a practice we criticized in 1983.

- The AVTI system is still operating a number of highly specialized programs whose existence cannot be justified on the basis of the percentage of graduates who are employed in the type of jobs for which they trained.

We recommend that:

- The board and its management should discontinue use of school-reported placement data and rely on the student follow-up study.

- The board and its management should adopt a more reasonable definition of a "related" job placement than the one now used. Some of the "broadly related" placements that are counted as related should not be considered related placements. Excluding all "broadly related" placements and counting only "closely related" placements would be too strict a standard if universally applied. However, counting only "closely related" placements can be useful in identifying programs that are training students for overly specialized jobs for which there are few openings, particularly in occupational areas for which more general training programs already exist. Opportunities for consolidating programs exist in the secretarial area where AVTIs offer too many legal and medical secretary programs. Other opportunities include, but are not limited to, marketing and merchandising programs (particularly fashion merchandising programs).

- The board and its management should refine its present student-teacher ratio policies by adopting higher minimum student-teacher ratios for some programs and lower ratios for others. The intent should be to achieve a *systemwide* ratio of 17:1 for non-health programs and 12:1 for health programs, but with more flexibility and fairness than the board's current standards permit.

We also recommend that:

- The Legislature should remove current statutory criteria on related placement rates and student-teacher ratios because they are stricter than the standards we recommended in our 1983 report. The Legislature should

instead direct the state board and its management to 1) establish more reasonable methods for measuring related placement rates and 2) establish more flexible student-teacher ratio standards that will achieve a *system-wide* average student-teacher ratio of 17:1 in non-health programs and 12:1 in health programs.

- The Legislature should not provide the AVTI system with funds that will enable it to add additional programs. We believe the board and its management should be required to fund new programs through savings from the elimination of existing programs with poor placement rates and staff reductions designed to achieve the recommended *systemwide* average student-teacher ratios.

We also recommend that the Legislature require other post-secondary systems operating vocational programs to conduct a follow-up study of their vocational graduates similar to the student follow-up study conducted by a consultant for the AVTI system. The board and its management are hesitant to make greater use of their follow-up study because other systems are not held accountable for related placement rates achieved by their vocational programs. We believe that the AVTI system would make more productive use of the results of its student follow-up study if the other systems offering vocational programs were required to conduct similar follow-up studies.

POST-SECONDARY VOCATIONAL EDUCATION: FOLLOW-UP STUDY

In February 1983, the Legislative Auditor's Office issued a report on the post-secondary vocational educational programs offered by Minnesota's 33 area vocational-technical institutes (AVTIs). That report revealed significant problems with low placement rates, high dropout rates, unnecessary program duplication, and inefficient student-teacher ratios.

To address these concerns, the Program Evaluation Division made eight major recommendations to the State Department of Education and the State Board of Education, which at that time served as the State Board for Vocational Education. Most of those recommendations were aimed at improving placement rates and student-teacher ratios. In addition, the 1983 Legislature passed legislation setting forth statutory criteria for placement rates and student-teacher ratios. The Legislature also reduced the biennial appropriation for AVTIs $7.3 million below the level of funding recommended by the Governor. Due to budget cuts, AVTIs had to eliminate some programs and reduce staffing in others during FY 1984 and FY 1985. The 1983 Legislature took responsibility for governance of the AVTI system from the Department of Education and the State Board of Education and created a new State Board of Vocational Technical Education.

The new board is now asking that funding cuts made for the 1984-85 biennium be restored for the 1986-87 biennium. The board is also asking that the Legislature repeal statutory language requiring the board to take action on programs with low student-teacher ratios or low closely related placement rates.

This follow-up report reviews what progress the State Board of Vocational Technical Education has made toward implementing our recommendations and the requirements set forth in statute. The specific questions addressed by this study are:

- Have the state board and its management adequately addressed placement rate problems?

- Have the board and its management adequately addressed the problem of low student-teacher ratios?

- Is the state board's request for the repeal of statutory language on student-teacher ratios and placement rates reasonable in light of the findings of this follow-up study?

This report is divided into five sections. First, we present a brief summary of our 1983 study and the actions of the 1983 Legislature. Second, we analyze placement rates. Third, we examine student-teacher ratios. Fourth, we look at the board's request to repeal statutory criteria related to student-teacher ratios and placement rates. Finally, we briefly examine the state board's budget request for the 1986-87 biennium.

A. INTRODUCTION

1. 1983 EVALUATION

As indicated earlier, our 1983 report found significant problems with low job placement rates, high dropout rates, inefficient student-teacher ratios, and unnecessary program duplication within the AVTI system. In particular, we found that:

- While most AVTI programs maintained good job placement rates, approximately one-fourth of all programs had not. In 28 percent of the programs, less than 51 percent of the 1977-79 graduates were employed in jobs closely related to their field of training one year after graduation. Due largely to the economic recession, the percentage of programs with low placement rates increased to approximately 44 percent for 1980-81 graduates.

- Programs with low student-teacher ratios were a source of inefficiency in the AVTI system. Overall student-teacher ratios were approximately eight percent below what the system could be expected to achieve.

- An unnecessary amount of program duplication existed. In fiscal year 1981, approximately 25 percent of all AVTI programs operated within 65 miles of another similiar program and also had a low student-teacher ratio.

- Nearly one-fifth of all programs had a dropout rate of 50 percent or more during fiscal years 1980 and 1981.

In light of these findings, we made the following recommendations:

- The State Board for Vocational Education should set higher minimum student-teacher ratios for non-health programs.

- The State Department of Education should identify those programs with student-teacher ratios below these standards and recommend appropriate action to the state board.

- The department and the board should take the necessary steps to achieve a systemwide student-teacher ratio of at least 17:1 in non-health programs and 12:1 in health programs, including related instructors.

- Attention should also be paid to whether similar programs are offered by other nearby AVTIs or community colleges. Unnecessary program duplication should be eliminated. The Higher Education Coordinating Board and its staff should ensure that a coordinated approach to this problem is taken by the post-secondary systems involved.

- The State Board for Vocational Education should establish a clear and meaningful policy regarding the related placement rates AVTI programs are expected to achieve. The State Department of Education should develop a reasonable definition of related placement.

- Special attention should be paid to specialized training programs with low closely related placement rates. For example, by reducing the number of legal secretary and medical secretary programs, efficiency can be improved without materially affecting the number of students placed in clerical occupations.

- The department, in cooperation with the AVTIs, should examine those programs with low placement or high dropout rates and determine the reasons for poor performance. Existing data on employer satisfaction with graduates and student satisfaction with programs may help to clarify the reasons. Where appropriate, the programs should be modified or terminated.

- The department should supplement its review of programs by examining certain composite measures of program efficiency and effectiveness. For example, the cost per completion or completions per full-time instructor could be used to identify those programs that are inefficient. Cost per related placement or related placements per full-time instructor are useful

composite measures of a program's efficiency and effectiveness.

- The department should also examine those programs whose graduates earn wages similar to high school graduates. A limited three year follow-up of these AVTI graduates should be conducted to determine if graduates of these programs fare any better than high school graduates without the training.

2. 1983 LEGISLATIVE ACTIONS

Following our study, the 1983 Legislature passed legislation setting forth statutory criteria for placement rates and student-teacher ratios. The 1983 Omnibus Education Aids bill gave the state board the following responsibility:

> Subd. 2 [PROGRAM ELIMINATION] In the absence of compelling reasons to do otherwise, the state board shall eliminate a program if:
> (a) fewer than 51 percent of the students are employed in positions closely related to their training within one year of completing their educational objectives; or
> (b) the ADM to teacher ratio is significantly below 12 to 1 for a health program or 17 to 1 for a non-health program.[1]

The Omnibus Education Aids bill also required the state board to report back to the Legislature on its actions. In addition, the 1983 Legislature reduced the 1984-85 biennial appropriation for the AVTI system approximately $7.3 million below the level of funding recommended by the Governor.

Major changes were also made in the governance structure of post-secondary vocational education. The 1983 Legislature created a new State Board of Vocational Technical Education, and gave it broad authority to allocate funds, establish and terminate programs, and to merge and close institutions. The new board assumed its responsibilities for managing the AVTI system on January 1, 1984. However, responsibility for actually operating AVTIs remained with local school districts.

As a result of reduced funding both the number of AVTI programs and staffing levels have decreased since 1983. Table 1 shows how the number of full-time licensed staff has changed since FY 1983. As these data show, the number of instructional staff is expected to decrease by 5.7 percent between FY 1983 and FY 1985. Instructional staff decreased by 3 percent from FY 1983

---

[1]1983 Omnibus Education Aids bill, Article 5, Section 4, Subd. 2.

TABLE 1

LICENSED STAFFING PATTERNS

FY 1983 Through 1985

	1983	1984	1985*	Percent Change 1983-85
Instructional FTE	2,297.95	2,228.60	2,165.89	-5.7%
Special Needs FTE	207.98	211.78	204.69	-1.6
Support FTE	395.78	385.12	359.09	-9.3
Total	2,901.71	2,825.50	2,729.67	-5.9

Source: Program Evaluation Division analysis of state board data.

*1985 figures are September 1984 estimates of staffing levels. It should be noted that decisions on FY 1985 staffing levels were made before the board knew what FY 1985 enrollment would be.

to FY 1984. It is estimated that the number of staff will decrease by another 3 percent from FY 1984 to FY 1985.

Table 1 also shows how the number of non-instructional licensed staff has changed. Special needs staff is expected to decrease 1.6 percent from FY 1983 to FY 1985. Support staff are expected to decrease by 9.3 percent.

The overall number of programs offered throughout the AVTI sytem decreased by 3.7 percent since FY 1983. Program offerings decreased from 765 in FY 1983 to 737 in FY 1985. During this time period, 58 programs were discontinued while 15 new programs were started. An additional 15 programs were added by expanding current programs. Thus, the system incurred an overall loss of 28 programs from 1983 to 1985.

It should be noted that most of the decisions to add new programs were approved by previous board management before the new board assumed full responsibility for the AVTI system in January 1984. On the other hand, the new board and its management have approved 32 program eliminations since January 1984.

The State Board of Vocational Technical Education has approved 14 new programs for FY 1986 if sufficient funding is available. Fifty-one programs are currently under consideration for staff reductions or possible elimination. The size of the staff reductions will likely depend on the amount of funding received by the board for the 1986-87 biennium.

B. PLACEMENT RATES

In 1983, we reported that, depending on the definition used, at least 10 and up to 28 percent of all AVTI programs had related placement rates of less than 51 percent. In the last two years, however, management of the board has indicated that less than two percent of all programs have related placement rates less than 51 percent. In April 1984, management reported that 13 programs offered in FY 1982 had related placement rates of 50 percent or less.[2] In June 1984, eight of these programs were eliminated, two programs were placed on monitored status, and three programs were granted variances because they served special populations.

---

[2]Placement rates are measured on graduates one year after graduation; data do not become available until the following fiscal year.

State board staff are currently reviewing placement rates for FY 1983 programs. They found that eleven programs had related placement rates of 50 percent or less. One of these programs has already been dropped by the AVTI. Recommendations as to the disposition of the remaining ten programs are expected by March 1985.

We find problems with the way management is calculating related placement rates. First, management still uses in part school-reported placement data, a practice we criticized in 1983. Second, management counts too many "broadly related" placements as related job placements. Third, the board excludes graduates who say that they are unavailable for employment from its placement rate calculations.

1. SCHOOL-REPORTED DATA

There are two sources of placement data for AVTI programs: the Minnesota Vocational Follow-Up System and school-reported placement data. The Minnesota Vocational Follow-Up System is an objective survey of all students one year after graduation. It measures the extent to which graduates' first jobs and their current jobs match the training they received at an AVTI. The follow-up system defines related placement in two ways: 1) jobs that are closely related to a student's training, and 2) jobs that are broadly but not closely related to a student's training. A job is closely related if the job title or skills the surveyed graduate reports appear to be similar to the training received. For example, if a graduate from an electrician program is employed as an electrician, then the graduate's job is said to be closely related. If the graduate is employed in any other occupation included in the trade and industrial area, then that job is broadly related to training. If the graduate is employed in a job assigned to any of the other broad occupational areas (agriculture, distributive education, health, home economics, business and office, or technical), then the graduate's job is classified as unrelated to training.

School-reported placement data are collected by the AVTIs themselves five months after graduation. These data do not distinguish between jobs that are closely or broadly related. In addition, these data refer to any job held by the student since graduation. Methods used to collect job information on students vary by school.

The board computes its related placement rates by using both data sources. For those students who have had only one or two jobs since graduation, data on job relatedness are taken from the follow-up study. For those students who have held three or more jobs since graduation, data on job relatedness are taken from the school reports. In addition, the board uses school-

reported data on job relatedness for students that did not respond to the follow-up study.

In computing related placement rates, the board and its management still use, in part, school-reported placement data, a practice which overstates the success of AVTI programs. As we pointed out in our 1983 evaluation, we have several concerns about using school-reported data. These data only identify whether jobs obtained by graduates are related to their training; they do not identify whether jobs are closely or broadly related. In addition, AVTIs do not submit documentation with their placement reports on each student's job or the method used to decide whether that job was related to training. As a result, it is difficult to verify whether AVTI data on relatedness are accurate. Also, state board staff do not provide AVTIs with sufficient guidance on how to determine relatedness. Finally, as we showed in our 1983 study, student opinion on job relatedness is not consistent with teacher opinion. Student opinion comes out between the two objective measures of relatedness used in the follow-up system. Both of these measures, as well as student opinion, show related placement rates to be less than those reported by AVTIs.

Table 2 compares the overall placement rates obtained from using student follow-up data, school-reported data, and board- reported data. As these data show, placement rates vary considerably, depending upon the data source used. The table also shows that the data used by the board to compute placement yield a very generous overall placement rate.

Data based on the student follow-up study show that 56 percent of all FY 1983 graduates obtained jobs closely related to their training one year after graduation. The follow-up system also shows that 72 percent of those available for employment had jobs either closely or broadly related to their training. School-reported data show that 83 percent of the available graduates had jobs either closely or broadly related to their training. Finally, board-reported data which combine the two data sets show an overall placement rate of 87 percent.

Table 3 compares different placement measures for FY 1983 graduates of major programs. Again, different measures of placement for the same program vary considerably. In general, placement rates reported by the board are consistently higher than data based solely on the more objective student follow-up system. This is true even when students unavailable for employment are excluded from calculating placement and when job relatedness is defined in the same manner. Board-reported placement rates often range fifteen to thirty percent higher than rates obtained from the follow-up system. For example, follow-up data show that 66 percent of the students graduating in fashion merchandising and available for employment held a closely or broadly related job one year after graduation.

TABLE 2

COMPARISON OF PLACEMENT RATES USING DIFFERENT MEASURES

Fiscal Year of Graduation	Follow-up Study Unavailable Included		Follow-up Study Unavailable Excluded		School Reported	Board Reported
	Closely Related	Broadly Related	Closely Related	Broadly Related		
1982	54%	65%	57%	69%	81%	85%
1983	56	68	59	72	83	87

Source: Program Evaluation Division of state board data.

TABLE 3

COMPARISON OF DIFFERENT RELATED PLACEMENT MEASURES FOR MAJOR PROGRAMS

FY 1983 Graduates

Major Program	Follow-Up Study Unavailable Included		Follow-up Study Unavailable Excluded		School Reported	Board Reported
	Closely	Broadly	Closely	Broadly		
Agricultural Production	77%	84%	79%	86%	98%	96%
Agricultural Supplies/Services	40	57	42	60	95	97
Agricultural Equipment Mechanics	60	78	61	79	97	93
Landscape	78	78	79	79	95	97
Fashion Merchandising	51	60	56	66	96	97
General Merchandising/Sales	57	66	61	70	92	94
Marketing Management	58	61	61	63	92	92
Dental Assistant	68	71	73	77	87	92
Medical Lab Assistant	66	69	70	74	89	89
Licensed Practical Nurse	72	80	77	86	81	88
Nurse Assistant	44	48	52	56	73	76
Ward Clerk	37	46	43	53	71	77
Child Care	57	61	62	66	77	88
Cosmetology	58	66	63	72	82	89
Food Service Occupations	59	70	63	73	91	91
Accounting	49	64	52	68	81	86
Banking/Finance	49	62	54	69	70	86
Data Processing Occupations	54	67	56	69	67	72
Computer Programming	76	82	77	83	81	86
Data Entry	44	61	47	65	86	85
Clerk Typist	51	61	55	67	73	84
Legal Secretary	46	82	48	84	85	92
Medical Secretary-Shorthand	49	72	53	78	81	83
Architectural Drafting	54	55	56	57	77	83
Civil Highway Technician	64	68	65	69	90	92
Electronics Technician	70	72	72	74	78	85
Mechanical Drafting	57	59	59	61	71	81
Fluid Power	49	54	49	54	80	83
Auto Body	64	77	64	78	86	91
Auto Mechanics	53	73	55	75	88	88

Major Program	Follow-Up Study Unavailable Included		Follow-up Study Unavailable Excluded		School Reported	Board Reported
	Closely	Broadly	Closely	Broadly		
Parts Sales	48%	73%	50%	76%	82%	85%
Commercial Art	55	66	57	68	83	90
Carpentry	64	76	65	77	90	91
Electrician	49	69	51	71	84	92
Truck/Diesel Mechanic	64	79	65	80	89	93
Graphic Arts	63	69	65	71	82	87
Machine Shop	61	76	64	80	81	88
Sheet Metal	62	81	64	83	85	92
Welding	36	63	36	64	91	80
Small Engine Mechanics	49	75	52	79	86	89
Truck Driving	46	62	47	63	87	88

Source: Program Evaluation Division analysis of state board data.

Board-reported placement data show rates of 97 percent for fashion merchandising graduates.

By even partially using school-reported placement data, board placement rates tend to overestimate the success of AVTI programs. For example, the board-reported placement rate for the air traffic control program (81 percent) would suggest that the program has few placement problems. However, data based on the student follow-up survey show that only 38 percent of available graduates obtain jobs in the air traffic control area or in any other technical area. According to the follow-up study, most graduates of this program obtain jobs totally unrelated to their training. Yet, school-reported placement data call most of the jobs that students indicate are unrelated to their training related. Likewise, data on one forest harvesting program from the follow-up study show that 25 percent of available graduates obtained jobs related to their training. Board-reported data, however, show a related placement rate of 73 percent.

Such discrepancies between what the student follow-up study says are related jobs and what schools say are related jobs accentuate the unreliability of placement rates based even partially on school-reported data.

We believe that there are too many shortcomings to the school-reported placement data. Therefore, we recommend that:

- The board and its management should discontinue use of school-reported placement data and rely on the student follow-up study.

2. RELATEDNESS OF JOB TO TRAINING

As we have already pointed out, a related placement can be defined in two ways: 1) jobs that are closely related to a student's training, and 2) jobs that are broadly related to a student's training.

- The placement rates reported by the board reflect the number of graduates obtaining jobs that are either closely or broadly related to their training. Defining placement in this manner, however, is too generous for many of the programs offered by AVTIs.

The AVTI system offers many highly specialized programs. For example, there are separate programs for legal secretaries, medical secretaries with shorthand, medical secretaries without shorthand, and general secretaries. Numerous highly specialized sales programs, such as real estate sales, professional and industrial sales, and sporting goods sales and management, are offered in addition to the more general sales and marketing

programs. For the most part, the existence of many highly specialized programs such as these should not be justified on the basis of the percentage of graduates employed in jobs broadly related to their training.

In these cases, a closely related measure is the most appropriate one to use to measure program success. If students are not obtaining jobs that closely reflect the training received, one must question whether that training was too specialized in the first place.

For example, graduates of legal secretarial programs should be expected to obtain jobs as legal secretaries. Obtaining employment in jobs broadly related to their training--such as in general office work or as a general secretary--is not a stringent enough measure of program success. If few graduates obtained jobs directly as legal secretaries, it is impractical for the system to offer these programs since so many other more general secretarial programs are already offered. Only a closely related placement rate would detect whether this problem was occurring.

Student follow-up data show that only 48 percent of available graduates of legal secretary programs actually obtain jobs as legal secretaries; an additional 36 percent, however, obtain other office jobs more broadly related to their training such as general secretarial jobs. This suggests that legal secretary programs may be providing over-specialized training for which few job openings exist. Placement rates based upon a broadly related definition of job relatedness--such as that used by the board--do not detect problems such as this. Board-reported data, which indicate that 92 percent of legal secretarial graduates obtain related jobs, obscure the fact that less than half of the graduates actually obtain jobs as legal secretaries.

Likewise, graduates of the highly specialized mobile home maintenance program should be expected to obtain jobs working on mobile homes and not in the more general construction or trades area. However, more graduates obtain jobs working in the more broadly related general trades area than specifically in the mobile homes area. A placement measure that simply examines broadly related placement rates overlooks the fact that programs like these may be providing training that is too specialized. Most graduates obtained jobs similar to those obtained by graduates of other more general construction and trades programs.

Finally, the follow-up study identifies any job as broadly related to a graduate's training if the job is in the same occupational area as the graduates's training. There are seven broad occupational areas (agriculture, distributive education, health, home economics, business and office, technical, and trade and industrial); each of these occupational areas contain diverse

training programs. Using a broadly related placement measure is inappropriate for many program combinations. For example, in the trade and industrial area, graduates trained in auto mechanics but employed as carpenters would be counted as broadly related placements. Likewise, students trained as child care assistants (in the home economics area) would be counted as broadly related placements if they were employed as short-order cooks.

Although the state board's definition of a related placement is too generous for many programs, statutory criteria that programs meet a "closely related" placement rate of 51 percent are too stringent for other programs. For some general program areas, broadly related measures of placement may be the most appropriate. For example, graduates of a general secretarial program would be considered to have broadly, but not closely, related jobs if they were employed as legal secretaries. In that particular case, the graduates should be considered to have jobs related to their training. The jobs are simply more specialized than the ones for which they were trained.

We recommend that:

- The board and its management should adopt a more reasonable definition of a related job placement than the one now used. Some of the "broadly related" placements that are counted as related should not be considered related placements. Excluding all "broadly related" placements and counting only "closely related" placements would be too strict a standard if universally applied. However, counting only "closely related" placements can be useful in identifying programs that are training students for overly specialized jobs for which there are few openings, particularly in occupational areas for which more general training programs already exist. Opportunities for consolidating programs exist in the secretarial area where AVTIs offer too many legal and medical secretary programs. Other opportunities include, but are not limited to, marketing and merchandising programs (particularly fashion merchandising).

3. UNAVAILABLE GRADUATES

The final issue in measuring related placement rates concerns how one treats that group of students who say that they are unavailable for employment. The State Board of Vocational Technical Education subtracts unavailable graduates from the total number of program graduates when calculating placement rates. This results in a higher placement rate than if we include those who are unavailable.

Excluding the unavailable is said to be reasonable for two reasons. First, some of the unavailable are pursuing additional educational training. Second, schools should not be held accountable for students who later choose not to seek employment. Subtracting the unavailable from the data base before computing placement is comparable to the procedure used when calculating the nation's unemployment rate.

However, including those unavailable in the data base also has merit. Some students may be unavailable for employment because they could not find a related job or any job they wanted and stopped looking. This group is analogous to the category of discouraged workers spoken of in connection with national unemployment rates. It is generally acknowledged that unemployment rates provide too optimistic a measure of unemployment problems because they exclude discouraged workers. Similarly, excluding the unavailable would provide too generous a measure of related placement since discouraged workers would not be counted.

Another reason for including the unavailable is that, from the public's perspective, the return to employers, students, and taxpayers depends on how many students get related jobs. For graduates who are unavailable, training has not resulted in any benefits for society but has required the expenditure of public funds. While a school is not responsible for a student's decision not to seek employment, policy decisions on what programs are offered should consider what percentage of all graduates get related jobs. This implies that the unavailable should be included when calculating placement rates.

4. SUMMARY

In summary, the State Board of Vocational Technical Education has not adequately addressed the placement rate problem. By any measure of how placement is defined or how one treats unavailable students, AVTI programs are continuing to have placement problems. The data in Tables 4 and 5, taken from the student follow-up survey, show the related placement rates experienced by AVTIs over the last seven years. Students indicating that they are unavailable for employment are included in Table 4 and excluded in Table 5. As these data show, related placement rates have declined since our 1983 evaluation. Table 4 shows that 55.2 percent of all FY 1982 and FY 1983 graduates were employed in jobs closely related to their training one year after graduation. The closely related placement rate for FY 1977 through FY 1979 graduates was 62.1 percent. Placement rates are approximately three percent higher when graduates unavailable for employment are excluded from the base; rates are about ten to eleven percent higher when broadly related placements are included along with closely related placements.

TABLE 4

RELATED PLACEMENT RATES ONE YEAR AFTER GRADUATION:
UNAVAILABLE GRADUATES INCLUDED

Fiscal Year of Graduation	Closely Related	Closely and Broadly Related
1977*	59.1%	69.8%
1978	63.4	73.9
1979	62.4	71.3
1977-1979 Combined	62.1%	72.1%
1980	56.5%	65.5%
1981	58.2	66.8
1980-1981 Combined	57.3%	66.1%
1982	54.0%	65.1%
1983	56.3	67.9
1982-1983 Combined	55.2%	66.6%

Source: Program Evaluation Division analysis of data from the Minnesota Vocational Follow-Up System.

* The rates reported for FY 1977 are higher than those reported by the Minnesota Vocational Follow-Up System. Data on several programs were excluded in our analysis because it appeared that placements classified as broadly related should have been classified as closely related.

The board and its management need to develop an adequate measure of related placement rates. We recommend that:

- Use of school-reported data should be discontinued.
- A better and more restrictive definition of job relatedness should be used.
- Unavailable graduates should not, in general, be excluded when placement rates are calculated.

Because the board and its management use a broad definition of related placement, they chose to examine placement rates using one year's worth of data. Since we recommend that the board establish a more reasonable and restrictive definition of related placement, we believe the board should use a minimum of

TABLE 5

RELATED PLACEMENT RATES ONE YEAR AFTER GRADUATION:
UNAVAILABLE GRADUATES EXCLUDED

Fiscal Year of Graduation	Closely Related	Closely and Broadly Related
1977*	64.4%	76.1%
1978	67.0	78.2
1979	66.3	75.8
1977-1979 Combined	66.2%	76.8%
1980	60.2%	69.8%
1981	61.9	71.1
1980-1981 Combined	61.1%	70.5%
1982	57.2%	69.0%
1983	59.3	71.5
1982-1983 Combined	58.3%	70.3%

Source: Program Evaluation Division Analysis of data from the Minnesota Vocational Follow-up System.

* The rates reported for FY 1977 are higher than those reported by the Minnesota Vocational Follow-Up System. Data on several programs were excluded in our analysis because it appeared that placements classified as broadly related should have been classified as closely related.

two years' worth of data when calculating related placement rates. In our 1983 report, we averaged three years of data when calculating related placement rates. This averaging helps control for temporary changes in economic conditions and other factors affecting placement rates.

Although the board and its management have not yet fully addressed the placement rate problem, they have begun several projects designed to examine the definition of a related placement rate. For example, board staff have been working with the Minnesota Occupational Information Coordinating Committee and the Minnesota Department of Economic Security on a long term "units of analysis" project. This project is trying to match AVTI programs with the specific occupations for which graduates are prepared. Board management hopes that this project will provide a reasonable definition of related placement and a set of procedures that can be used to examine the relationship between training programs and subsequent employment.

In addition, the board has begun a review of the Post-Secondary Vocational Follow-Up System. This review was prompted by the need to address some of the limitations of the follow-up system. It is anticipated that the review will address adopting "units of analysis" concepts and procedures to determine related placements.

C. STUDENT-TEACHER RATIOS

1. SYSTEMWIDE AVERAGE STUDENT-TEACHER RATIOS

Until FY 1985, the AVTI system was making progress toward achieving a *systemwide* average student-teacher ratio of 17:1 for non- health programs and 12:1 for health programs. Table 6 shows student-teacher ratios by occupational area for FY 1979 through FY 1985. As these data indicate, the average ratio for non- health programs increased to 16.1:1 in FY 1984; student-teacher ratios for health programs increased to 11.7:1.

Systemwide average student-teacher ratios would have also improved in FY 1985 except that the AVTI system, like most of the other post-secondary systems, experienced a decline in student enrollment. AVTI enrollment decreased by 5.7 percent from fall 1983 (FY 1984) to fall 1984 (FY 1985). Table 7 shows how fall enrollment in the AVTI system has changed since 1980. The decrease in enrollment was not unique to the AVTI system. With the exception of the State University system, all public post-secondary education systems saw an enrollment drop in the last year. State community colleges experienced an enrollment drop of 3.3 percent. In addition, data collected by the Higher Education Coordinating Board on private vocational school enrollment show an enrollment decrease of 5.5 percent.

If enrollment had not declined, the average student-teacher ratio in non-health programs would have been approximately 16.6:1. The average health program ratio would have been close to 12:1. These ratios would have been close to the levels we recommended in our earlier report.

However, because of the enrollment decline, AVTI student-teacher ratios in FY 1985 are expected to return to FY 1983 levels. The estimated average ratios for non-health and health programs in FY 1985 are 15.7:1 and 11.3:1 respectively.

2. BOARD POLICY

Minnesota statutes require the state board to eliminate a program if its student-teacher ratio is "significantly below" 12:1 for a health program and 17:1 for a non-health program. The

TABLE 6

STUDENT-TEACHER RATIOS BY OCCUPATIONAL AREA

FY 1979-1985

Occupational Area	1979	1980	1981	1982	1983	1984	Projected 1985 **
Agriculture	12.4	12.7	13.0	13.9	14.3	14.8	14.1
Distributive Education	14.6	14.3	15.1	14.5	16.2	17.7	16.6
Health	10.1	10.5	10.8	10.9	11.2	11.7	11.3
Home Economics	10.6	12.3	12.7	14.2	15.6	15.4	15.0
Business/Office	14.2	14.7	15.9	16.0	16.1	16.8	17.0
Technical	15.4	15.0	15.7	16.0	16.8	16.2	16.2
Trade/Industrial	13.8	14.3	15.4	15.0	15.8	15.7	15.7
Overall Ratio	13.5	13.9	14.7	14.7	15.4	15.6	15.2
Overall Ratio (Excluding Health)	13.9	14.3	15.3	15.2	16.0	16.1	15.7
Overall Ratio (Including related instructors)	12.8	13.3	14.2	14.3	15.2	15.6*	15.2

Source: Program Evaluation Division analysis of state board data.

*Beginning in FY 1984, data on related instructors are automatically recorded within the appropriate occupational program areas instead of being recorded separately.

**ADM estimates for fiscal year 1985 are taken from a December state board survey of all AVTI programs; FTE estimates are taken from September 1984 budget reports submitted to the state board by AVTI directors.

TABLE 7

AVTI ENROLLMENT

Fall 1980-1984

	1980	1981	1982	1983	1984	Percent Change 1980-84	Percent Change 1983-84
Enrollment	30,111	31,233	31,782	32,186	30,363	+0.8%	-5.7%

Source: Higher Education Coordinating Board, 1984.

State Board of Vocational Technical Education defines programs as being "significantly below" if student-teacher ratios are less than 10:1 for health programs and less than 14:1 for non-health programs. Prior to FY 1984, the previous board was using a 10:1 minimum ratio for all programs, although few programs were eliminated because of it. Thus, present policy imposes a higher standard on non-health programs than previously existed.

Board staff reviewed all programs offered by the AVTIs during FY 1983 as part of its budget process for the 1984-85 school year. It found 80 programs below its minimum standards. It suspended 24 of these programs, recommended staff reductions in 20 others, and placed 18 programs on monitored status. Eighteen other programs were maintained without staffing changes because they served special populations.

State board staff are currently reviewing ratios for programs operating during the last year. They have identified 136 programs that operated below its minimum standards. Ten of these programs have already been dropped; 75 programs are expected to meet board standards this year; information on five programs was inaccurate; and action is pending on the remaining 46 programs.

- Management of the State Board of Vocational Technical Education has improved student-teacher ratios by reviewing all non-health programs that have not achieved at least a 14:1 ratio and all health programs with a ratio of less than 10:1. This approach is an improvement over past practice. Because the *systemwide* ratios would have been close to the statewide averages we recommended in 1983 if FY 1985 enrollment had not declined, the board should now concentrate on refining its minimum standards. Some classroom programs should be required to meet higher standards and other programs, because of their unique characteristics, should be subject to lower standards.

To reach the statewide goals we recommended in 1983 (student-teacher ratios of 17:1 in non-health programs and 12:1 in health programs), the board needs to adopt a more flexible approach to defining minimum ratios. We are concerned that its present minimums of 10:1 in health programs and 14:1 in non-health programs may be too strict for some programs and not strict enough for others.

By using these minimum standards, the board has neglected to examine those programs that could be operating at higher levels than 14:1. For example, programs consisting mainly of classroom instruction, such as business or distributive education courses, should be expected to operate at much higher levels than those programs requiring hands-on training or the extensive use of limited equipment. It is impractical to hold accounting pro-

grams and truck driving programs accountable to the same minimum standard.

A recent report on the joint planning efforts of 13 AVTIs and community colleges issued by the State Board of Vocational Technical Education and the Community College System underscores this problem. It indicates that minimum standards for AVTI programs could present barriers to joint programming efforts. Because joint programs usually result in AVTIs providing laboratory or technical courses, the report indicates that AVTIs may not be able to meet current standards for student-teacher ratios when student time is divided between the two systems.

While the board's variance policy should be adequate to ensure that joint programs are not required to meet unrealistic standards, the problem suggests that there should be a more differentiated system of minimum ratios.

Large differences in student-teacher ratios among AVTIs offering similar programs exist. As indicated in our 1983 evaluation, some variation might be expected because of differences in the size of facilities or the amount of equipment available. However, differences also appear to be due to a lack of student demand for certain programs at certain AVTIs.

Table 8 shows the distribution of student-teacher ratios within major programs for FY 1984. As these data show, student-teacher ratios vary considerably for like programs. For example, nine of the secretarial programs offered in FY 1984 were operating at ratios below 15:1. Nineteen programs were operating at ratios of 15:1 or more. Of these, eight were operating at ratios above 17.5:1. The data are similar for clerk-typist programs. Whereas eight programs were operating at student-teacher ratios of 17.5:1 or more, five were operating at levels less than 15:1. If a number of similar programs can operate at levels significantly above the minimum ratio of 14:1, perhaps such minimums are too low for those program areas.

In order to attain overall statewide ratios of 17:1 for non-health programs and 12:1 for health programs, the state board should adopt policies on student-teacher ratios that establish different standards for different programs or occupational areas. We recommend that:

- The board and its management should adopt higher minimum student-teacher ratios for some programs and lower ratios for others. The intent should be to achieve a *systemwide* ratio of 17:1 for non-health programs and 12:1 for health programs, but with more flexibility and fairness than the board's current standards permit.

Another way to attain the recommended statewide ratios is to examine the entire mix of programs offered by the system and by

TABLE 8

FREQUENCY DISTRIBUTION OF STUDENT-TEACHER RATIOS FOR MAJOR PROGRAMS

FY 1984

Major Program	Total Programs	Number of Programs with Ratios Between 0-7.49	7.5-9.99	10.0-12.49	12.5-14.99	15.0-17.49	17.5-19.99	Above 20.0	Average ADM/FTE Ratio
Agricultural Production	14	2	3	4	2	2	1	0	12.95
Agricultural Supplies/Services	7	0	2	1	1	3	0	0	14.21
Agricultural Equipment Mechanics	8	0	0	1	2	3	2	0	16.34
Fashion Merchandising	8	1	1	0	1	3	1	1	14.45
General Merchandising/Sales	7	0	0	0	1	3	1	2	17.18
Marketing Management	13	0	0	0	2	4	3	4	18.71
Dental Assistant	9	0	0	5	2	2	0	0	12.30
Medical Lab Assistant	6	0	2	1	1	2	0	0	12.75
Licensed Practical Nurse	21	0	1	20	0	0	0	0	11.19
Nurse Assistant	9	0	1	4	2	1	0	1	11.31
Ward Clerk	6	1	0	2	3	0	0	0	11.75
Child Care	5	0	0	2	1	1	0	1	15.08
Cosmetology	9	1	0	0	3	3	1	1	15.68
Food Service Occupations	14	0	0	0	3	6	5	0	16.79
Accounting	27	1	0	0	6	12	4	4	16.95
Banking/Finance	6	0	0	2	2	1	1	0	14.49
Data Processing Occupations	8	0	0	0	1	5	0	2	18.89
Secretarial With Shorthand	28	1	0	3	5	11	8	0	16.35
Clerk Typist	17	0	0	1	4	4	4	4	16.95
Legal Secretary	14	0	0	0	5	2	3	4	18.28
Medical Secretary-Shorthand	5	0	1	0	3	0	1	0	14.05
Medical Secretary-No Shorthand	10	0	0	1	4	1	2	2	16.66
Architectural Drafting	12	0	1	2	1	5	1	2	15.31
Civil Highway Technician	5	0	0	1	0	3	1	0	15.76
Electronics Technician	17	0	0	1	0	10	4	2	16.97
Mechanical Drafting	19	1	0	2	9	4	2	1	14.21
Air Conditioning/Heating	7	0	0	0	1	4	1	1	17.37
Auto Body	18	0	0	1	4	10	2	1	16.13
Auto Mechanics	27	0	0	1	10	10	5	1	15.55

Major Program	Total Programs	Number of Programs with Ratios Between 0-7.49	7.5-9.99	10.0-12.49	12.5-14.99	15.0-17.49	17.5-19.99	Above 20.0	Average ADM/FTE Ratio
Parts Sales	11	0	0	2	3	4	1	1	15.57
Commercial Art	7	0	0	0	0	4	3	0	17.87
Carpentry	19	0	1	4	5	3	5	1	15.23
Electrician	11	0	1	1	3	2	3	1	15.34
Truck/Diesel Mechanic	16	0	0	0	5	8	3	0	16.01
Graphic Arts	11	0	0	1	3	4	2	1	15.75
Machine Shop	19	0	0	2	6	6	3	2	15.23
Welding	25	1	5	3	8	6	1	1	12.94
Small Engine Mechanics	7	0	0	0	0	2	3	2	19.13
Truck Driving	5	0	1	1	1	1	0	1	12.51

Source: Program Evaluation Division analysis of state board data.

individual AVTIs. The board should be examining student participation within similar programs in individual AVTIs. For example, some AVTIs offer two or more secretarial programs such as legal secretary, medical secretary, or general secretary. In instances where schools offer a number of similar programs, one or more of the programs often have a low student-teacher ratio. This suggests opportunities for program consolidation. In these instances it may be more efficient to offer more options for specialization within general programs instead of creating two or more separate programs. In addition, many of these more specialized programs have low closely related placement rates. If graduates are not getting jobs within the very specialized areas, it would be more effective to simply offer the more generalized training with a limited option to specialize.

D. BOARD REQUEST TO REPEAL STATUTORY CRITERIA

The State Board of Vocational Technical Education is requesting that statutes setting forth criteria for student-teacher ratios and placement rates be repealed. State board management believes that it has gone beyond legislative requirements and developed a system superior to that imposed by the Legislature. This system is called the Annual Program Review Matrix.

Each AVTI program is evaluated annually according to a series of nine criteria. Programs that fall below standard in two criteria are placed on monitored status. The nine criteria are as follows:

- Student satisfaction;
- Special needs students served;
- Geographic accessibility;
- Completion rate;
- Employer satisfaction;
- Related placement rate;
- Student-teacher ratio;
- Instructional cost per ADM; and
- Instructional cost per completor

Developing a monitoring system such as this is a step in the right direction. It has the potential for being a useful device to compare both like and similar programs. However, it is not

sufficiently developed. First, the state board has developed benchmarks or cut-off points as to what is acceptable and what is not for only five of the nine criteria. Four criteria have no benchmarks: geographic accessibility, special needs, instructional cost per ADM, and instructional cost per completor.

The two cost criteria are important monitoring devices in that they have the potential to point out programs that are operating significantly above or below that program's average cost. However, the board feels that, since teacher salaries make up approximately 70 percent of instructional costs, and since salaries are beyond its direct control, it is not possible to establish meaningful benchmarks for these two criteria at this time.[3]

Despite any variation that may be due to instructional salaries, composite measures such as these are useful indicators of a program's efficiency and effectiveness. As shown in our 1983 evaluation, instructional costs as well as total costs per ADM, per completor, and per closely related placement vary considerably for the same program within different AVTIs. For example, total costs per completor for agricultural production programs offered in FY 1980 and 1981 averaged $8475 per program; costs for individual programs ranged from a low of $5255 to a high of $31,543. The average total cost per closely related placement for these programs was $11,038 and ranged from $8342 to $95,585. While varying instructor salaries may explain some of the variance, programs at the high end of the cost range may also not be performing as efficiently or effectively as programs at the low end or in the middle.

The board's annual review matrix also relies on placement data which we feel have little reliability. Related placement criteria, although set at 60 percent, rely solely upon school reported placement data. As indicated earlier, there are few checks built into this data collection system to make one comfortable with the accuracy of the data obtained.

Finally, this system uses the board minimums of 10:1 and 14:1 as benchmarks for student-teacher ratios. We would like to see the board use diffential standards for student-teacher ratios that vary by individual program or occupational area. We are concerned that the present minimums may be too lenient for some programs and too strict for others. The board and its management need to adopt higher minimum student-teacher ratios for

---

[3]It should be noted that the board does use cost per ADM data to allocate funds to AVTIs. Under average cost funding, programs with costs significantly above the average are not fully funded. In this way, the board hopes to bring high cost programs down closer to the average.

some programs and lower ratios for others. The intent should be to achieve a *systemwide* ratio of 17:1 for non-health programs and 12:1 for health programs, but with more flexibility and fairness than the board's current standards permit.

Despite our concerns about the board's existing program review matrix, we believe current statutory requirements should be changed. Current statutory requirements on placement rate and student-teacher ratios are more restrictive than the standards recommended in our 1983 report. Statutory criteria also do not provide the board with the overall flexibility it needs to apply the most appropriate standards to individual programs. We recommend that:

- The Legislature should remove current statutory language and instead direct the management of the state board to 1) establish a more reasonable method for measuring related placement rates and 2) establish more flexible student-teacher ratio standards that will achieve a *systemwide* average ratio of 17:1 in non-health programs and 12:1 in health programs.

E. BOARD BUDGET REQUEST

The State Board of Vocational Technical Education is requesting a $29.4 million dollar base adjustment in its instructional budget for the 1986-87 biennium. This includes restoring the $7.3 million cut from the 1984-85 biennial budget by the 1983 Legislature.

According to state board management, most of this request for additional funding will be used to cover current 1984-85 salary settlements and anticipated 1986-87 salary settlements. During the 1984-85 biennium, the board did not receive enough funding to cover locally negotiated salary settlements. Unlike the other post-secondary education systems, the State Board of Vocational Technical Education has little control over teacher salaries. AVTI instructor salaries have historically been negotiated within the K-12 framework; salary increases have therefore reflected K-12 settlements. For the current biennium salary settlements increased by an average of 15 percent, whereas the board received funding for a nine percent increase.

To a lesser extent, the board's base adjustment request would also be used to purchase equipment and supplies, provide for new program start-ups, and restore funding for support services and other activities which the AVTI system had to cut during FY 1985. According to board management, these activities were cut and cash reserves reduced because program eliminations and staff reductions were not sufficient to cover the budget shortfall

resulting from the $7.3 million budget reduction and the 1984-85 salary settlements.

Finally, the board expects federal funding for vocational programs to decline. This will require using state funds to replace federal dollars.

Although this follow-up study does not attempt a rigorous examination of the board's budget request, we are concerned that some of the additional funds requested may enable the system to add additional programs. Board management has indicated that any additional funding received would not be used to restore programs previously eliminated. We believe that:

- The board and its management should be required to fund new programs through savings from eliminating programs with poor placement rates and staffing reductions to achieve the recommended *systemwide* average student-teacher ratios.

Finally, it should be noted that the AVTI system is the only post-secondary educational system that has a student follow-up system in place that can be used to measure program effectiveness. We recommend that the Legislature require other post-secondary systems operating vocational programs to conduct a follow-up study of their vocational graduates similar to the student follow-up study conducted by a consultant for the AVTI system. The Higher Education Coordinating Board (HECB) voiced a similar concern in a 1983 report that reviewed trends in the number of graduates from existing post-secondary instructional programs.[4] The HECB report suggested that the governing systems may want to consider developing a common reporting procedure for graduates and other successful completors to assure equity and accuracy in data gathering.

The board and its management are hesitant to make greater use of their follow-up study because other systems are not held accountable for related placement rates achieved by their vocational programs. We believe that the AVTI system would make greater use of the results of its student follow-up study if the other systems offering vocational programs were required to conduct similar follow-up studies.

---

[4]"A Review in Trends in the Number of Graduates from Existing Minnesota Post-Secondary Instructional Programs", Higher Education Coordinating Board, December 5, 1983.

STUDIES OF THE PROGRAM EVALUATION DIVISION

Final reports and staff papers from the following studies can be obtained from the Program Evaluation Division, 122 Veterans Service Building, Saint Paul, Minnesota 55155, 612/296-4708.

1977

1. Regulation and Control of Human Service Facilities
2. Minnesota Housing Finance Agency
3. Federal Aids Coordination

1978

4. Unemployment Compensation
5. State Board of Investment: Investment Performance
6. Department of Revenue: Assessment/Sales Ratio Studies
7. Department of Personnel

1979

8. State-sponsored Chemical Dependency Programs
9. Minnesota's Agricultural Commodities Promotion Councils
10. Liquor Control
11. Department of Public Service
12. Department of Economic Security, Preliminary Report
13. Nursing Home Rates
14. Department of Personnel, Follow-up Study

1980

15. Board of Electricity
16. Twin Cities Metropolitan Transit Commission
17. Information Services Bureau
18. Department of Economic Security
19. Statewide Bicycle Registration Program
20. State Arts Board: Individual Artists Grants Program

1981

21. Department of Human Rights
22. Hospital Regulation
23. Department of Public Welfare's Regulation of Residential Facilities for the Mentally Ill
24. State Designer Selection Board
25. Corporate Income Tax Processing

26. Computer Support for Tax Processing
27. State-sponsored Chemical Dependency Programs, Follow-up Study
28. Construction Cost Overrun at the Minnesota Correctional Facility - Oak Park Heights
29. Individual Income Tax Processing and Auditing
30. State Office Space Management and Leasing

1982

31. Procurement Set-Asides
32. State Timber Sales
33. *Department of Education Information System
34. State Purchasing
35. Fire Safety in Residential Facilities for Disabled Persons
36. State Mineral Leasing

1983

37. Direct Property Tax Relief Programs
38. *Post-Secondary Vocational Education at Minnesota's Area Vocational-Technical Institutes
39. *Community Residential Programs for Mentally Retarded Persons
40. State Land Acquisition and Disposal
41. The State Land Exchange Program
42. Department of Human Rights: Follow-up Study

1984

43. *Minnesota Braille and Sight-Saving School and Minnesota School for the Deaf
44. The Administration of Minnesota's Medical Assistance Program
45. *Special Education
46. *Sheltered Employment Programs
47. State Human Service Block Grants

1985

48. Energy Assistance and Weatherization
49. Highway Maintenance
50. Metropolitan Council
51. Economic Development Programs
52. Post Secondary Vocational Education: Follow-Up Study
53. State Aid Highway and Street Systems (in progress)

---

*These reports are also available through the U.S. Department of Education ERIC Clearinghouse.